

REMARKS

Newly added Claim 16, directed to the embodiment of the presently cancelled Claim 1, is believed to better express the claimed invention.

A page containing a revised "Abstract of the Disclosure" believed to meet the requirements set forth in the Office Action is enclosed.

The claims stand rejected under Section 112 alleged to be indefinite for failing to particularly point out and distinctly claim the subject matter of the invention.

The stated grounds of this rejection are believed addressed by the following remarks:

(a) The term "type" as used in the claim is clearly defined in the application – see page 1, lines 9 et seq.

(b) The phrase " the term of the persulfate compound addition" alleged by the Examiner to render the claims unclear does not appear in any of the claims.

(c) The recited styrene and acrylonitrile in Claim 5 limit the "resin forming vinyl monomers" of the graft polymer (A) of Claim 1. The recited styrene and acrylonitrile in Claim 1 refer to copolymer (B).

Reconsideration of the rejection under Section 112 is requested and its withdrawal respectfully urged.

Claims 1-5, 7-9, 11, 12 and 14 stand rejected under 35 U.S.C. 102(b) said to be anticipated by Mitsubishi Monsanto (JP 06-10230), herein the '230 document.

The present invention is directed to a thermoplastic molding composition containing (A) an elastic-thermoplastic graft polymer and (B) a copolymer comprising styrene and acrylonitrile. Component (A) of the claimed composition is characterized by the process of its preparation. The graft polymer is a product of a radical emulsion polymerization process wherein resin forming vinyl monomers are polymerized in the presence of rubber in latex form and the initiation of the polymerization is by a combination of a persulfate compound and an azo compound. Critically, these initiators are introduced into the process as follows:

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In a first step, a first mixture that contains the azo compound and an amount of monomers (first amount) is fed into the latex to form a reaction mixture. The first amount amounts to 10 to 95 percent relative to the weight of the total amount of the monomers entailed in said polymerization and the azo compound is present in an amount of 0.2 to 3 percent relative to the weight of the "first amount". In a subsequent step, a second mixture that contains the persulfate compound and a "second amount" of monomers is introduced into the reaction mixture. The "second amount" amounts to 5 to 90 percent relative to the weight of the total amount of said monomers entailed in the polymerization and the amount of the persulfate compound is 0.05 to 1.5 percent relative to the weight of the "second amount".

There is nothing in the '230 document to describe the presently claimed composition as nowhere is there a description of the sequential addition of the initiator compounds.

The rejection alleging anticipation is believed to be untenable and its reconsideration and withdrawal are requested.

Claim 15 directed to a method of using the novel composition, the method entailing preparing an article by injection molding stand rejected under 35 U.S.C. 103(a) as being unpatentable over the '230 document.

The discussion above pointing to the critical difference between the referenced composition and the one presently claimed is believed relevant here as well. The composition referred to in Claim 15 has not hitherto been disclosed or suggested such that the method of its use cannot reasonably be seen as obvious.

The rejection of Claim 15 as obvious in view of the '230 document and is untenable and its retraction is requested.

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Believing the above represents a complete response to the Office Action and that the application is in condition for allowance, Applicant requests the earliest issuance of an indication to this effect. A "Marked-up Version" of the amendment to show the changes is attached

Respectfully submitted,

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MARKED UP VERSION OF AMENDMENT TO SHOW CHANGES

Please amend the Abstract of the Disclosure to read as follows:

--Thermoplastic Molding Materials Based on Special Highly Effective Grafted Polymer Components

Abstract of the Disclosure

A thermoplastic molding composition of the ABS type is disclosed. The composition that contains an elastic-thermoplastic graft polymer and a copolymer comprising styrene and acrylonitrile, is characterized in that the graft polymer is a product of radical emulsion polymerization process that is initiated by a combination of a persulfate compound and at least one azo compound and in that a first mixture that contains said azo compound and a first amount of monomers is fed in to a rubber in latex form and in a subsequent reaction step a second mixture is introduced that contains the persulfate compound and a second amount of monomers. --

IN THE CLAIMS:

Please cancel Claim 1.

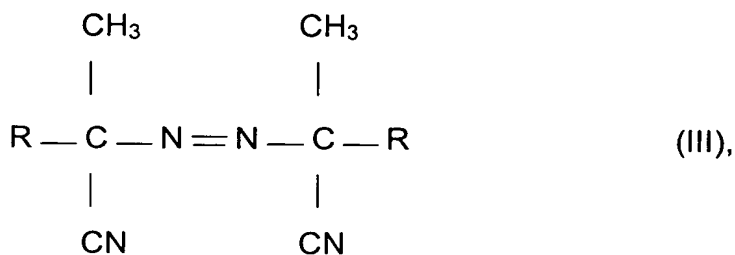
Please add Claim 16 :

--16. A thermoplastic molding composition of the ABS type containing

(A) an elastic-thermoplastic graft polymer and

(B) a copolymer comprising styrene and acrylonitrile,

said (A) being a product of a radical emulsion polymerization process wherein resin forming vinyl monomers are polymerized in the presence of rubber in latex form having a glass transition temperature $\leq 0^{\circ}\text{C}$, said polymerization initiated by a combination of a persulfate compound and at least one azo compound conforming to formula (III)



where R denotes a member selected from the group consisting of CH₃, C₂H₅, C₃H₇, C₄H₉, n- C₃H₇, i- C₃H₇, n- C₄H₉, i- C₄H₉, and t- C₄H₉,

and wherein process comprise in sequence

feeding a first mixture that contains said azo compound and a first amount of monomers to said latex to form a reaction mixture, said first amount being 10 to 95 percent relative to the weight of the total amount of said monomers entailed in said polymerization, said azo compound being in an amount of 0.2 to 3 percent relative to the weight of said first amount, and

introducing to the reaction mixture a second mixture that contains said persulfate compound and a second amount of monomers, said second amount being 5 to 90 percent relative to the weight of the total amount of said monomers entailed in said polymerization, the amount of said persulfate compound being 0.05 to 1.5 percent relative to the weight of said second amount. - -

The following claims have been amended.

2. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, characterized in that component A) is contained in quantities of 10 to 80 wt.%.

3. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, characterized in that the rubber according to Component A is a mixture of at least two rubber latices with

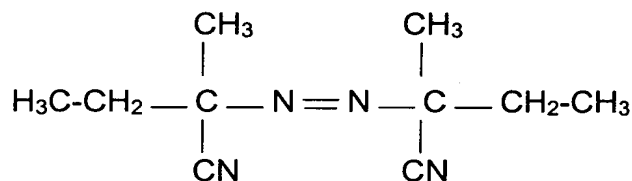
- a) an average particle diameter $d_{50} \leq 320$ nm and a gel content ≤ 70 wt.% and
- b) an average particle diameter $d_{50} \geq 370$ nm and a gel content ≥ 70 wt.%.

4. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, characterized in that the elastic-thermoplastic graft polymer A) has a rubber content of 20 to 80 wt.%.

5. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, characterized in that the resin-forming monomers in the production of the graft polymer A) are styrene and acrylonitrile.

6. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, characterized in that in the production of the graft polymer A), polymerization takes place before addition of the persulfate compound with no addition of molecular weight regulators and polymerization takes place after addition of the persulfate compound with addition of molecular weight regulators.

7. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, characterized in that the compound



is used as azo compound to produce the graft polymer A).

8. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, characterized in that potassium peroxodisulfate is used as persulfate compound for the production of the graft polymer A).

9. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, characterized in that the co-polymer B) is composed of monomers selected from styrene, α -methylstyrene, acrylonitrile, methyl methacrylate, maleic anhydride, N-phenylmaleinimide or mixtures thereof.

10. (Amended) Thermoplastic moulding compositions according to [Claim 1] Claim 16, additionally containing at least one resin selected from the polycarbonates, polyester carbonates, polyesters and polyamides group.

14. (Amended) Moulded parts, produced from thermoplastic moulding compositions according to [Claim 1] Claim 16.

15. (Amended) A method of using the composition of [Claim 1] Claim 16 comprising preparing an article by injection molding.

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